



wwPDB X-ray Structure Validation Summary Report

Aug 8, 2023 – 05:49 PM EDT

PDB ID : 1OWR
Title : CRYSTAL STRUCTURE OF HUMAN NFAT1 BOUND MONOMERICALLY TO DNA
Authors : Stroud, J.C.; Chen, L.
Deposited on : 2003-03-29
Resolution : 3.00 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the  symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references](#) ) were used in the production of this report:

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.35
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.35

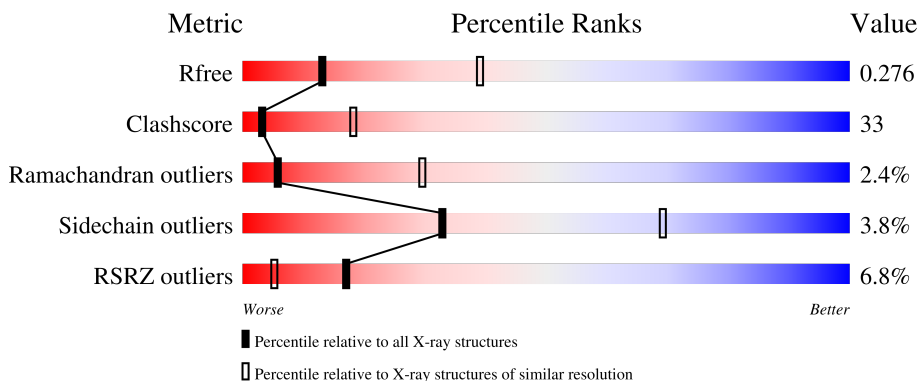
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.




| Metric | Whole archive (#Entries) | Similar resolution (#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| R_{free} | 130704 | 2092 (3.00-3.00) |
| Clashscore | 141614 | 2416 (3.00-3.00) |
| Ramachandran outliers | 138981 | 2333 (3.00-3.00) |
| Sidechain outliers | 138945 | 2336 (3.00-3.00) |
| RSRZ outliers | 127900 | 1990 (3.00-3.00) |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 15 | 7% 13% 87% |
| 1 | C | 15 | 100% |
| 1 | E | 15 | 80% 20% |
| 1 | G | 15 | 7% 7% 93% |
| 2 | B | 15 | 93% 7% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|---|
| 2 | D | 15 |  93% 7% |
| 2 | F | 15 |  7% 87% 7% |
| 2 | H | 15 |  93% 7% |
| 3 | M | 284 |  11% 51% 48% 5% |
| 3 | N | 284 |  15% 51% 44% 5% |
| 3 | P | 284 |  2% 56% 41% 5% |
| 3 | Q | 284 |  1% 50% 49% 5% |

2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 11436 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a DNA chain called NFAT1 Monomeric Binding Site, Plus Strand.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|----|---------|---------|-------|
| 1 | A | 15 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 310 | 149 | 61 | 86 | 14 | | | |
| 1 | C | 15 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 310 | 149 | 61 | 86 | 14 | | | |
| 1 | E | 15 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 310 | 149 | 61 | 86 | 14 | | | |
| 1 | G | 15 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 310 | 149 | 61 | 86 | 14 | | | |

- Molecule 2 is a DNA chain called NFAT1 Monomeric Binding Site, Minus Strand.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|----|---------|---------|-------|
| 2 | B | 15 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 299 | 146 | 49 | 90 | 14 | | | |
| 2 | D | 15 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 299 | 146 | 49 | 90 | 14 | | | |
| 2 | F | 15 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 299 | 146 | 49 | 90 | 14 | | | |
| 2 | H | 15 | Total | C | N | O | P | 0 | 0 | 0 |
| | | | 299 | 146 | 49 | 90 | 14 | | | |

- Molecule 3 is a protein called Nuclear factor of activated T-cells, cytoplasmic 2.

| Mol | Chain | Residues | Atoms | | | | | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| 3 | M | 284 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2250 | 1414 | 411 | 416 | 9 | | | |
| 3 | N | 284 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2250 | 1414 | 411 | 416 | 9 | | | |
| 3 | P | 284 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2250 | 1414 | 411 | 416 | 9 | | | |
| 3 | Q | 284 | Total | C | N | O | S | 0 | 0 | 0 |
| | | | 2250 | 1414 | 411 | 416 | 9 | | | |

There are 4 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|------------------|------------|
| M | 395 | VAL | - | cloning artifact | UNP Q13469 |
| N | 395 | VAL | - | cloning artifact | UNP Q13469 |
| P | 395 | VAL | - | cloning artifact | UNP Q13469 |
| Q | 395 | VAL | - | cloning artifact | UNP Q13469 |

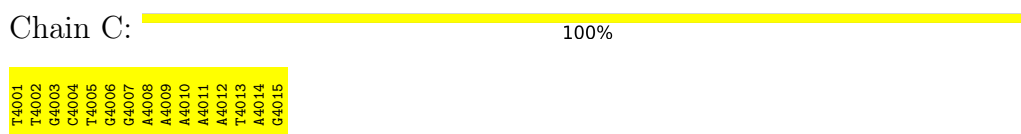
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

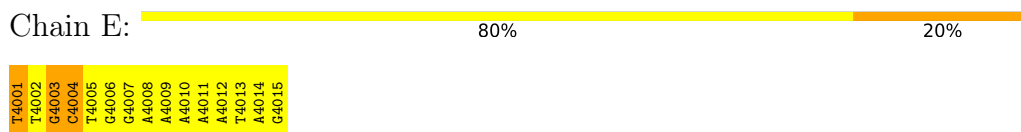
- Molecule 1: NFAT1 Monomeric Binding Site, Plus Strand



- Molecule 1: NFAT1 Monomeric Binding Site, Plus Strand



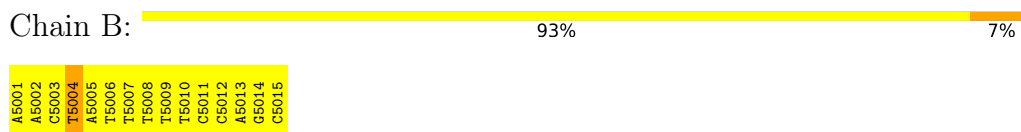
- Molecule 1: NFAT1 Monomeric Binding Site, Plus Strand



- Molecule 1: NFAT1 Monomeric Binding Site, Plus Strand



- Molecule 2: NFAT1 Monomeric Binding Site, Minus Strand



- Molecule 2: NFAT1 Monomeric Binding Site, Minus Strand

Chain D: 93% 7%

A5001
A5002
C5003
T5004
A5005
T5006
T5007
T5008
T5009
T5010
C5011
C5012
A5013
G5014
C5015

- Molecule 2: NFAT1 Monomeric Binding Site, Minus Strand

Chain F: 7% 87% 7%

A5001
A5002
C5003
T5004
A5005
T5006
T5007
T5008
T5009
T5010
C5011
C5012
A5013
G5014
C5015

- Molecule 2: NFAT1 Monomeric Binding Site, Minus Strand

Chain H: 93% 7%

A5001
A5002
C5003
T5004
A5005
T5006
T5007
T5008
T5009
T5010
C5011
C5012
A5013
G5014
C5015

- Molecule 3: Nuclear factor of activated T-cells, cytoplasmic 2

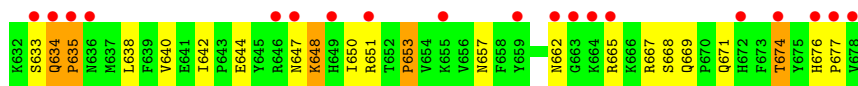
Chain M: 11% 51% 48%

V995
P996
L997
E998
W999
S403
Q404
S405
Q406
R411
I412
E413
V414
Q415
T486
P416
K417
P418
H419
H420
R421
G422
S429
R430
G431
C431
A432
V433
K434
A435
P436
T437
G438
G439
H440
P441
V442
V443
Q444
E450
M451
G455
Q457
I458
F459
I460
G461
T462
A463
D464
E465
R466
I467
L468
K469
P470
E398
H471
W628
A472
F473
Y474
Q475
I479
V484
T485
T487
S488
Y489
V493
L499
E500
H423
I501
Y424
P578
P502
M579
V580
E504
R582
P505
M509
R510
D514
C515
I518
L519
K520
L521
R522
N523
A524
D525
I526
E527
E532
L528
R529
E537
T533
D534
I535
G536
M539
R543
L544
V545
F546
R547
E552
S553
S554
D529
R556
I557
L560
Q561
N565
C569
S570
R571
R572
S573
A574
R575
E576
L577
K648
H649
M579
V580
E581
Q583
D584
S587
G588
Y591
G594
G595
N596
I597
T599
G600
Q601
N602
T604
S605
E606
S607
T612
E613
K614
T615
T616
D617
G618
Q620
T621
W622
W623
V627
V678

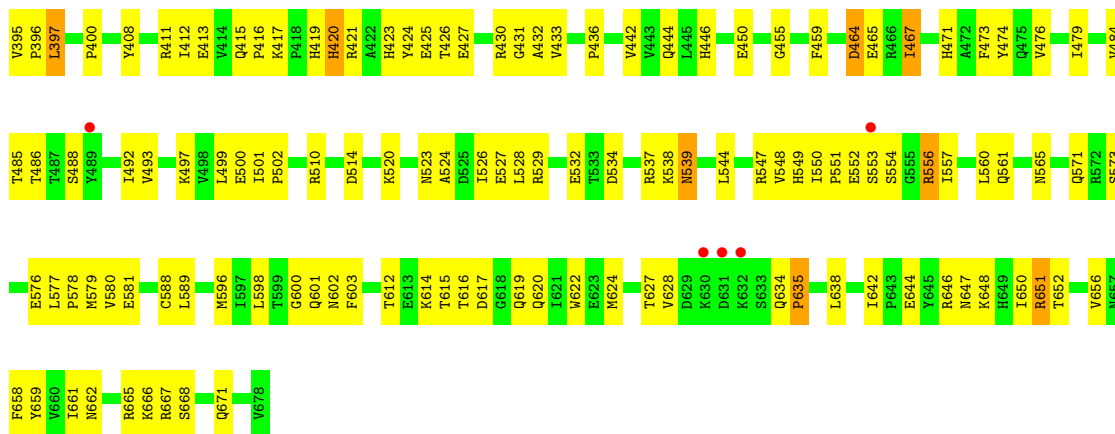
- Molecule 3: Nuclear factor of activated T-cells, cytoplasmic 2

Chain N: 15% 51% 44% 5%

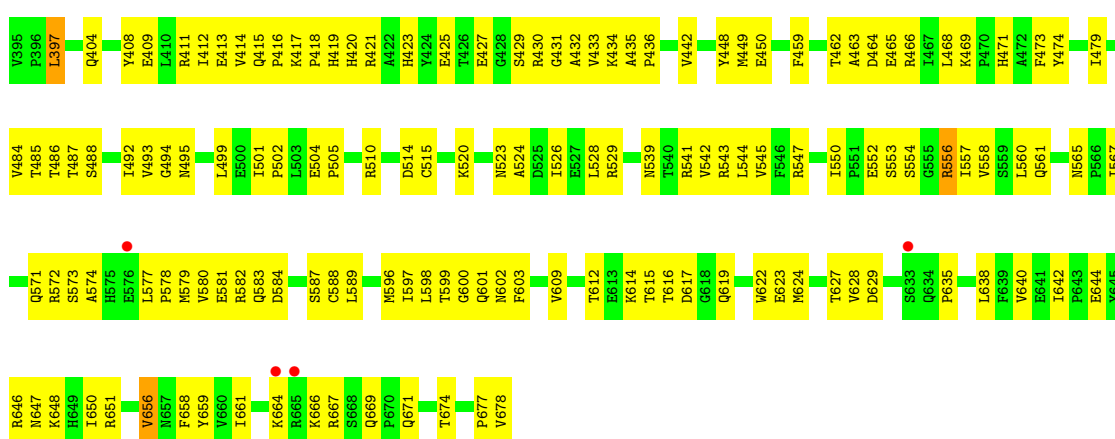
V995
P996
L997
P400
S403
Y408
R411
I412
E413
V414
Q415
T486
P416
K417
P418
H419
H420
R421
G422
S429
R430
G431
C432
V433
K434
A435
P436
H440
P441
V442
Y448
M449
E450
N451
L456
Q457
F458
I459
I460
A463
I467
L468
H471
A472
F473
I479
T480
K481
K482
T483
W484
T485
T486
T487
S488
Y489
I492
V493
L499
E500
I501
P502
L503
E504
D584
R510
A511
D514
K520
Q592
G593
O594
R595
M596
I597
L598
T599
G600
Q601
N602
T604
S605
E613
K614
T615
T616
D617
G618
Q619
Q620
I621
W622
E623
T627
V628
D629
K630
D631



• Molecule 3: Nuclear factor of activated T-cells, cytoplasmic 2



• Molecule 3: Nuclear factor of activated T-cells, cytoplasmic 2



4 Data and refinement statistics

| Property | Value | Source |
|---|---|------------------|
| Space group | P 1 21 1 | Depositor |
| Cell constants a, b, c, α , β , γ | 100.65Å 94.85Å 112.79Å 90.00° 104.34° 90.00° | Depositor |
| Resolution (Å) | 20.00 – 3.00 20.01 – 2.98 | Depositor EDS |
| % Data completeness (in resolution range) | (Not available) (20.00-3.00) 91.5 (20.01-2.98) | Depositor EDS |
| R_{merge} | 0.09 | Depositor |
| R_{sym} | (Not available) | Depositor |
| $\langle I/\sigma(I) \rangle$ ¹ | 2.42 (at 2.98Å) | Xtrriage |
| Refinement program | CNS | Depositor |
| R, R_{free} | 0.241 , 0.273 0.251 , 0.276 | Depositor DCC |
| R_{free} test set | 3538 reflections (8.91%) | wwPDB-VP |
| Wilson B-factor (Å ²) | 59.5 | Xtrriage |
| Anisotropy | 0.697 | Xtrriage |
| Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²) | 0.31 , 60.6 | EDS |
| L-test for twinning ² | $\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$ | Xtrriage |
| Estimated twinning fraction | No twinning to report. | Xtrriage |
| F_o, F_c correlation | 0.90 | EDS |
| Total number of atoms | 11436 | wwPDB-VP |
| Average B, all atoms (Å ²) | 66.0 | wwPDB-VP |

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.43% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality i

5.1 Standard geometry i

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|----------------|-------------|----------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 1 | A | 0.71 | 0/349 | 0.89 | 0/538 |
| 1 | C | 0.63 | 0/349 | 0.78 | 0/538 |
| 1 | E | 0.78 | 0/349 | 1.10 | 3/538 (0.6%) |
| 1 | G | 0.55 | 0/349 | 0.78 | 0/538 |
| 2 | B | 0.79 | 0/333 | 0.99 | 1/511 (0.2%) |
| 2 | D | 0.88 | 1/333 (0.3%) | 1.02 | 1/511 (0.2%) |
| 2 | F | 0.70 | 0/333 | 0.87 | 0/511 |
| 2 | H | 0.64 | 0/333 | 0.81 | 1/511 (0.2%) |
| 3 | M | 0.52 | 0/2300 | 0.76 | 0/3115 |
| 3 | N | 0.51 | 0/2300 | 0.79 | 0/3115 |
| 3 | P | 0.49 | 0/2300 | 0.74 | 0/3115 |
| 3 | Q | 0.47 | 0/2300 | 0.72 | 1/3115 (0.0%) |
| All | All | 0.55 | 1/11928 (0.0%) | 0.79 | 7/16656 (0.0%) |

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1 | E | 0 | 1 |
| 2 | F | 0 | 1 |
| All | All | 0 | 2 |

All (1) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 2 | D | 5001 | DA | N9-C4 | -7.20 | 1.33 | 1.37 |

The worst 5 of 7 bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|-------|-------------|----------|
| 1 | E | 4004 | DC | O5'-P-OP2 | -6.38 | 99.96 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | B | 5004 | DT | OP2-P-O3' | 6.15 | 118.73 | 105.20 |
| 1 | E | 4004 | DC | O4'-C4'-C3' | -5.32 | 102.37 | 104.50 |
| 2 | H | 5008 | DT | N1-C1'-C2' | 5.16 | 122.40 | 112.60 |
| 2 | D | 5003 | DC | O5'-P-OP2 | 5.12 | 116.85 | 110.70 |

There are no chirality outliers.

All (2) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 1 | E | 4001 | DT | Sidechain |
| 2 | F | 5002 | DA | Sidechain |

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | A | 310 | 0 | 171 | 33 | 0 |
| 1 | C | 310 | 0 | 171 | 36 | 0 |
| 1 | E | 310 | 0 | 171 | 24 | 0 |
| 1 | G | 310 | 0 | 171 | 36 | 0 |
| 2 | B | 299 | 0 | 173 | 23 | 0 |
| 2 | D | 299 | 0 | 173 | 16 | 0 |
| 2 | F | 299 | 0 | 173 | 23 | 0 |
| 2 | H | 299 | 0 | 173 | 17 | 0 |
| 3 | M | 2250 | 0 | 2238 | 142 | 0 |
| 3 | N | 2250 | 0 | 2238 | 135 | 0 |
| 3 | P | 2250 | 0 | 2238 | 121 | 0 |
| 3 | Q | 2250 | 0 | 2238 | 143 | 0 |
| All | All | 11436 | 0 | 10328 | 724 | 0 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 33.

The worst 5 of 724 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1 | Atom-2 | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:4008:DA:OP1 | 3:M:665:ARG:HB3 | 1.37 | 1.17 |
| 1:C:4003:DG:H2'' | 1:C:4004:DC:H5' | 1.20 | 1.16 |
| 3:M:421:ARG:HD2 | 3:M:571:GLN:HB2 | 1.27 | 1.12 |
| 1:G:4003:DG:H2'' | 1:G:4004:DC:H5' | 1.21 | 1.11 |
| 1:A:4004:DC:H2'' | 1:A:4005:DT:H5'' | 1.16 | 1.09 |

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|----------|-------------|----|
| 3 | M | 282/284 (99%) | 252 (89%) | 24 (8%) | 6 (2%) | 7 | 33 |
| 3 | N | 282/284 (99%) | 251 (89%) | 21 (7%) | 10 (4%) | 3 | 20 |
| 3 | P | 282/284 (99%) | 254 (90%) | 21 (7%) | 7 (2%) | 5 | 28 |
| 3 | Q | 282/284 (99%) | 251 (89%) | 27 (10%) | 4 (1%) | 11 | 43 |
| All | All | 1128/1136 (99%) | 1008 (89%) | 93 (8%) | 27 (2%) | 6 | 29 |

5 of 27 Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 3 | M | 635 | PRO |
| 3 | N | 426 | THR |
| 3 | N | 482 | LYS |
| 3 | P | 635 | PRO |
| 3 | Q | 635 | PRO |

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|-----------|----------|-------------|----|
| 3 | M | 247/254 (97%) | 240 (97%) | 7 (3%) | 43 | 77 |
| 3 | N | 247/254 (97%) | 230 (93%) | 17 (7%) | 15 | 48 |
| 3 | P | 247/254 (97%) | 240 (97%) | 7 (3%) | 43 | 77 |
| 3 | Q | 247/254 (97%) | 240 (97%) | 7 (3%) | 43 | 77 |
| All | All | 988/1016 (97%) | 950 (96%) | 38 (4%) | 33 | 69 |

5 of 38 residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 3 | P | 627 | THR |
| 3 | Q | 651 | ARG |
| 3 | P | 651 | ARG |
| 3 | Q | 539 | ASN |
| 3 | Q | 667 | ARG |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 41 such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 3 | P | 671 | GLN |
| 3 | Q | 565 | ASN |
| 3 | Q | 415 | GLN |
| 3 | Q | 508 | ASN |
| 3 | Q | 657 | ASN |

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

| Mol | Chain | Analysed | <RSRZ> | #RSRZ>2 | OWAB(Å ²) | Q<0.9 |
|-----|-------|------------------|--------|--------------|-----------------------|-------|
| 1 | A | 15/15 (100%) | -0.32 | 1 (6%) 17 5 | 34, 44, 84, 95 | 0 |
| 1 | C | 15/15 (100%) | -0.47 | 0 100 100 | 33, 42, 77, 87 | 0 |
| 1 | E | 15/15 (100%) | -0.11 | 0 100 100 | 47, 57, 103, 112 | 0 |
| 1 | G | 15/15 (100%) | 0.09 | 1 (6%) 17 5 | 44, 55, 96, 103 | 0 |
| 2 | B | 15/15 (100%) | -0.22 | 0 100 100 | 18, 48, 79, 80 | 0 |
| 2 | D | 15/15 (100%) | -0.39 | 0 100 100 | 27, 45, 62, 63 | 0 |
| 2 | F | 15/15 (100%) | -0.19 | 0 100 100 | 35, 67, 101, 117 | 0 |
| 2 | H | 15/15 (100%) | -0.17 | 0 100 100 | 38, 62, 83, 96 | 0 |
| 3 | M | 284/284 (100%) | 0.35 | 31 (10%) 5 2 | 16, 65, 120, 142 | 0 |
| 3 | N | 284/284 (100%) | 0.52 | 44 (15%) 2 1 | 17, 76, 124, 141 | 0 |
| 3 | P | 284/284 (100%) | -0.19 | 5 (1%) 68 40 | 22, 54, 94, 130 | 0 |
| 3 | Q | 284/284 (100%) | -0.12 | 4 (1%) 75 49 | 25, 62, 101, 126 | 0 |
| All | All | 1256/1256 (100%) | 0.11 | 86 (6%) 17 5 | 16, 62, 114, 142 | 0 |

The worst 5 of 86 RSRZ outliers are listed below:

| Mol | Chain | Res | Type | RSRZ |
|-----|-------|-----|------|------|
| 3 | N | 576 | GLU | 6.0 |
| 3 | M | 664 | LYS | 6.0 |
| 3 | M | 633 | SER | 5.9 |
| 3 | M | 637 | MET | 5.3 |
| 3 | M | 665 | ARG | 5.2 |

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.